REMARKS

This responds to the Office Action mailed on July 9, 2008.

Claims 1, 9, 17-18 and 21-24 are amended, claims 3-4, 11-12 and 19-20 were previously canceled, and no claims are added; as a result, claims 1-2, 5-10, 13-18 and 21-24 remain pending in this application. The amendments to the claims provide consistent terminology usage within the claims and remove terms asserted to be indefinite in the Office Action. None of the amendments are in response to an art based rejection. Applicant respectfully submits that no new matter has been introduced with the amendments.

Claim Objections

Claims 17-24 were objected to as lacking antecedent basis with respect to the term "tangible computer readable media." Applicant has amended pending claims 17-18 and 21-24 as suggested in the Office Action to replace the tem "tangible computer readable media" with "computer storage medium." Applicant respectfully requests removal of the objection to claims 17-18 and 21-24.

§112 Rejection of the Claims

Claims 1-2, 5-10, 13-18 and 21-24 were rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness. With respect to indefiniteness, the Board of Patent Appeals and Interferences has stated:

> In rejecting a claim under the second paragraph of 35 U.S.C.§112, it is incumbent on the examiner to establish that one of ordinary skill in the pertinent art, when reading the claims in light of the supporting specification, would not have been able to ascertain with a reasonable degree of precision and particularity the particular area set out and circumscribed by the claims. *Ex parte* Wu, 10 USPQ 2d 2031, 2033 (B.P.A.I. 1989)(citing *In re* Moore, 439 F.2d 1232, 169 USPQ 236 (C.C.P.A. 1971); *In re* Hammack, 427 F.2d 1378, 166 USPQ 204 (C.C.P.A. 1970)).

The M.P.E.P. adopts this line of reasoning, stating that:

> The essential inquiry pertaining to this requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. Definiteness of claim language must be analyzed, not in a vacuum, but in light of:

(1) The content of the particular application disclosure;
(2) The teachings of the prior art; and
(3) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made. *M.P.E.P.* § 2173.02.

Further, a claim is indefinite only if the claim is "insoluably ambiguous." *Energizer v. ITC*, 2007-1197 (Fed. Cir. 2007). A claim term is insolubly ambiguous if it is not amenable to construction, cannot be given any reasonable meaning, or a person of skill would not understand what is claimed.

With respect to claim 1, lines 4-5, the Office Action states that "it is unclear whether 'the program units' associated with the process is the same 'program units" in line 1?' Applicant has amended claim 1 to clarify that the program units of lines 4-5 are the same as those introduced in line 1.

With respect to claim 1, line 5, the Office Action states that "it [is] uncertain whether or not the program units executing on one or more of the plurality of multiple processor units?" The Office Action further states that the word "may" is indefinite for failing to particularly point out and distinctly claim the subject matter. Applicant has amended claim 1 to remove the word "may."

With respect to claim 1, lines 7-8, the Office Action states that "it is not clearly understood what cause the occurrence of the context switch event?" In response, Applicant notes that the specification, at page 8, line 21 to page 9, line 19 describes various context shifting events, including signals, exceptions, non-local gotos, and system calls. Each of these context shifting events, along with others, are known to those of skill in the art. As to the specific cause of the context shifting event, it is neither essential nor relevant to the claimed subject matter what causes the conflict shifting event, all that is required for the claim is that a context shifting event occurs.

The Office Action further queries "Does the context switch event occurs to only the first program unit of the same process or does it occur to the first program unit of any other process?" In response, Applicant notes that the claims recite actions that take place with respect to program units for a process. The handling of "any other process" is not essential nor even relevant to the

claimed subject matter. Such other processes may be handled in the same manner as recited in the claims.

With respect to claim 1, line 9, the Office Action states that "it is not clearly understood what is the criteria and reason for migrating one or more of the plurality of program units? (i.e. failure or shortage of resource?). In response, Applicant notes that claim 1 recites that migration is one of the tasks that occurs "upon the occurrence of a context shifting event." Thus the context shifting event is the reason for migrating the plurality of program units.

With respect to claim 1, lines 9-10, the Office Action states that "it is not clearly understood to which one of the plurality of multiple processing units the one or more program units are migrating? (i.e. to the one processing units which has the most of the program units of the same process or the one with the lightest load?)" In response, Applicant notes that it is not relevant nor essential to the operation of the claimed subject matter how a processing unit is selected. As recited in the claims, the program units are migrated "such that each of the program units process the same context shifting event as the first program unit." As stated in the specification at page 9, lines 5-6, migrating the program units to the same multiple processing unit provides the useful result that the program units "executing code located in the memory of the selected multiple processor unit." Applicant notes that the multiple processing unit may be selected according to any methodology known in the art, including selecting the multiple processor unit which has the most of the program units of the same process or the one with the lightest load. Other selection mechanisms known in the art may be used, the specific selection method used is not essential nor relevant to the claimed subject matter.

With respect to claim 1, lines 9-12, the Office Action states that "it is not clearly understood whether the migration of any one or more program units of any process or only to one or more program units of the same process which the context switch event occurs to the same process first program unit?" In response, Applicant notes that the claims recite a process having a plurality of program units, and that the claims refer only to the recited process and recited plurality of program units associated with the recited process. Thus the migration occurs for those program units associated with the process such that at the end of the migration, "the plurality of program units associated with the process are executing on the same multiple processor unit" as recited in claim 1.

With respect to claim 1, line 13, the Office Action states that "it is unclear how the synchronization of the scheduling of each of the plurality of the program units and what is the criteria for synchronization?" In response, Applicant notes that as described in the specification at page 8, line 20 to page 9, line 17, an "gsync" or "msync" instruction may be used to synchronize scheduling. Other methods of synchronization may be used and are within the scope of the claimed subject matter.

With respect to claim 1, lines 14-15, the Office Action states that "it is unclear whether setting of the context of each of the plurality of the program units of the same process or different processes?" In response, Applicant notes that the claims recite a process having a plurality of program units. Thus as recited in the claims, the setting of the context occurs for each of those program units associated with the process.

In view of the above discussion and amendments to claim 1, Applicant respectfully submits that the claim language discussed above for claim 1, when analyzed in light of the content of the application disclosure, is not indefinite. Applicant respectfully submits that the rejection of claim 1 has been overcome, and that claim 1 is in condition for allowance.

With respect to claim 9, line 7, the Office Action states that "it is uncertain whether or not at least one of the processors is performing the tasks?" The Office Action states that the word "operable" is indefinite and fails to particularly point out and distinctly claim the subject matter. Applicant has amended claim 9 to replace "operable to" with "performs the tasks of."

With respect to claim 9, line 9, the Office Action states that "it is not clearly understood whether 'a plurality of program units' is the same as 'the program units' associated with the process? (i.e. if it is the same it should be referred to as the plurality of program units) what is the relation between "a plurality of program units", "the program units" and "program units" in line l? (i.e. are they the same plurality of program units that are associated with the same process or different?)." Applicant has amended claim 9 to provide consistent usage of "plurality of program units" thus clarifying that the "plurality of program units" refers to the plurality of program units associated with the process.

With respect to claim 9, lines 10-11, the Office Action states that "it [is] uncertain whether or not the program units executing on one or more of the plurality of multiple processor

units?" The Office Action further states that the word "may" is indefinite for failing to particularly point out and distinctly claim the subject matter. Applicant has amended claim 9 to remove the word "may."

With respect to claim 9, line 13, the Office Action states that "it is uncertain whether or not at least one of the processors is migrating one or more of the plurality of program units. The word 'operable' is indefinite and fails to particularly point out and distinctly claim the subject matter." Applicant has amended claim 9 to replace the second instance of "operable to" with "performs the tasks of."

With respect to claim 9, lines 12-13, the Office Action states that "it is not clearly understood what cause the occurrence of the context switch event?" In response, Applicant notes that the specification, at page 8, line 21 to page 9, line 19 describes various context shifting events, including signals, exceptions, non-local gotos, and system calls. Each of these context shifting events, along with others, are known to those of skill in the art. As to the specific cause of the context shifting event, it is neither essential nor relevant to the claimed subject matter what causes the conflict shifting event, all that is required for the claim is that a context shifting event occurs.

The Office Action further states "Does the context switch event occur only to the first program unit of the same process or does it occur to the first program unit of any other process?" In response, Applicant notes that the claims recite actions that take place with respect to program units for a process. The handling of program units for "any other process" is not essential nor even relevant to the claimed subject matter. Such other processes may be handled in the same manner as recited in the claims.

With respect to claim 9, line 14, the Office Action states that "it is not clearly understood what is the criteria and reason for migrating one or more of the plurality of program units? (i.e. failure or shortage of resource?)." In response, Applicant notes that claim 9 recites that migration is one of the tasks that occurs "upon the occurrence of a context shifting event." Thus the context shifting event is the reason for migrating the plurality of program units.

With respect to claim 9, lines 14-17, the Office Action states that "it is not clearly understood to which one of the plurality of multiple processing units the one or more program units are migrating? (i.e. migrate to the one processing units which has the most of the program

units of the same process or the one with the lightest load?)." In response, Applicant notes that it is not relevant nor essential to the operation of the claimed subject matter how a processing unit is selected. As recited in the claims, the program units are migrated "such that each of the program units process the same context shifting event as the first program unit." As stated in the specification at page 9, lines 5-6, migrating the program units to the same multiple processing unit provides the useful result that the program units "executing code located in the memory of the selected multiple processor unit." Applicant notes that the multiple processing unit may be selected according to any methodology known in the art, including selecting the multiple processor unit which has the most of the program units of the same process or the one with the lightest load. Other selection mechanisms known in the art may be used, the specific selection method used is not essential nor relevant to the claimed subject matter.

With respect to claim 9, lines 14-17, the Office Action states that "it is not clearly understood whether the migration of any one or more program units of any process or only to one or more program units of the same process which the context switch event occurs to the same process first program unit?" In response, Applicant notes that the claims recite a process having a plurality of program units, and that the claims refer only to the recited process and recited plurality of program units associated with the recited process. Thus the migration occurs for those program units associated with the process such that at the end of the migration, "the plurality of program units associated with the process are executing on the same multiple processor unit" as recited in claim 9.

With respect to claim 9, line 18, the Office Action states that "it is unclear how the synchronization of the scheduling of each of the plurality of the program units and what is the criteria for synchronization?" In response, Applicant notes that as described in the specification at page 8, line 20 to page 9, line 17, an "gsync" or "msync" instruction may be used to synchronize scheduling. Other methods of synchronization may be used and are within the scope of the claimed subject matter.

With respect to claim 9, lines 19-21, the Office Action states that "it is unclear whether setting of the context of each of the plurality of the program units of the same process or different processes?" In response, Applicant notes that the claims recite a process having a plurality of program units. The claims do not recite activity related to any other process (i.e. a

"second process"). Thus as recited in the claims, the setting of the context occurs for each of those program units associated with the process.

In view of the above discussion and amendments to claim 9, Applicant respectfully submits that the claim language discussed above for claim 9, when analyzed in light of the content of the application disclosure, is not indefinite. Applicant respectfully submits that the rejection of claim 9 has been overcome, and that claim 9 is in condition for allowance.

With respect to claim 17, line 5, the Office Action states that "it is unclear whether 'the program units' associated with the process is the same 'program units' in line 2?" Applicant has amended claim 17 to clarify that the program units of line 5 are the same as those introduced in line 2.

With respect to claim 17, lines 6-7, the Office Action states that "it uncertain whether or not the program units executing on one or more of the plurality of multiple processor units? The word 'may' is indefinite for failing to particularly point out and distinctly claim the subject matter." Applicant has amended claim 17 to remove the word "may."

With respect to claim 17, lines 8-9, the Office Action states that "it is not clearly understood what cause the occurrence of the context switch event?" In response, Applicant notes that the specification, at page 8, line 21 to page 9, line 19 describes various context shifting events, including signals, exceptions, non-local gotos, and system calls. Each of these context shifting events, along with others, are known to those of skill in the art. As to the specific cause of the context shifting event, it is neither essential nor relevant to the claimed subject matter what causes the conflict shifting event, all that is required for the claim is that a context shifting event occurs.

The Office Action further queries "Does the context switch event occurs to only the first program unit of the same process or does it occur to the first program unit of any other process?" In response, Applicant notes that the claims recite actions that take place with respect to program units for a process. The handling of "any other process" is not essential nor even relevant to the claimed subject matter. Such other processes may be handled in the same manner as recited in the claims.

With respect to claim 17, lines 10-11, the Office Action states that "it is not clearly understood what is the criteria and reason for migrating one or more of the plurality of program units? (i.e. failure or shortage of resource?)" In response, Applicant notes that claim 17 recites that migration is one of the tasks that takes place "upon the occurrence of a context shifting event." Thus the context shifting event is the reason for migrating the plurality of program units.

With respect to claim 17, lines 9-10, the Office Action states that "it is not clearly understood to which one of the plurality of multiple processing units the one or more program units are migrating? (i.e. to the one processing units which has the most of the program units of the same process or the one with the lightest load?)" In response, Applicant notes that it is not relevant nor essential to the operation of the claimed subject matter how a processing unit is selected. As recited in the claims, the program units are migrated "such that each of the program units process the same context shifting event as the first program unit." As stated in the specification at page 9, lines 5-6, migrating the program units to the same multiple processing unit provides the useful result that the program units "executing code located in the memory of the selected multiple processor unit." Applicant notes that the multiple processing unit may be selected according to any methodology known in the art, including selecting the multiple processor unit which has the most of the program units of the same process or the one with the lightest load. Other selection mechanisms known in the art may be used, the specific selection method used is not essential nor relevant to the claimed subject matter.

With respect to claim 17, lines 10-13, the Office Action states that "it is not clearly understood whether the migration of any one or more program units of any process or only migrating the one or more program units of the same process which the context switch event occurs to the same process first program unit?" In response, Applicant notes that the claims recite a process having a plurality of program units, and that the claims refer only to the recited process and recited plurality of program units associated with the recited process. Thus the migration occurs for those program units associated with the process such that at the end of the migration, "the plurality of program units associated with the process are executing on the same multiple processor unit" as recited in claim 17.

With respect to claim 17, line 14, the Office Action states that "it is unclear how the synchronization of the scheduling of each of the plurality of the program units and what is the

criteria for synchronization?" In response, Applicant notes that as described in the specification at page 8, line 20 to page 9, line 17, an "gsync" or "msync" instruction may be used to synchronize scheduling. Other methods of synchronization may be used and are within the scope of the claimed subject matter.

With respect to claim 17, lines 15-16, the Office Action states that "it is unclear whether setting of the context of each of the plurality of the program units of the same process or different processes? In response, Applicant notes that the claims recite a process having a plurality of program units. Only one process is recited in claim 17. Thus as recited in the claims, the setting of the context occurs for each of those program units associated with the process recited in claim 17.

In view of the above discussion and amendments to claim 17, Applicant respectfully submits that the claim language discussed above for claim 17, when analyzed in light of the content of the application disclosure, is not indefinite. Applicant respectfully submits that the rejection of claim 17 has been overcome, and that claim 17 is in condition for allowance.

§*103 Rejection of the Claims*

Claims 1-2, 5-10, 13-18 and 21-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Krause (US 6,047,323) in view of Gillespie (US 6,269,391) and further in view of Alverson et al. (US 6,952,827). The determination of obviousness under 35 U.S.C. § 103 is a legal conclusion based on factual evidence. *See Princeton Biochemicals, Inc. v. Beckman Coulter, Inc.*, 411 F.3d 1332, 1336-37 (Fed.Cir. 2005). The legal conclusion that a claim is obvious within § 103(a) depends on at least four underlying factual issues set forth in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966). The underlying factual issues set forth in *Graham* are as follows: (1) the scope and content of the prior art; (2) differences between the prior art and the claims at issue; (3) the level of ordinary skill in the pertinent art; and (4) evaluation of any relevant secondary considerations.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir.1988). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested, by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) ;

M.P.E.P. § 2143.03. "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970) ; M.P.E.P. § 2143.03. As part of establishing a *prima facie* case of obviousness, the Examiner's analysis must show that some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.* To facilitate review, this analysis should be made explicit. *KSR Int'l v. Teleflex Inc., et al.*, 127 S.Ct. 1727; 167 L.Ed 2d 705; 82 USPQ2d 1385 (2007) (citing *In re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006)). Applicant respectfully traverses the rejection because there are differences between the claims and the cited references.

For example, claim 1 recites tasks that are performed upon the occurrence of a context shifting event, one of the tasks comprising "migrating one or more the plurality of program units from one or more of the plurality of multiple processing units to one of the plurality of multiple processing units such that the plurality of program units associated with the process are executing on the same multiple processor unit." Claims 9 and 17 recite similar subject matter. The Office Action asserts that Krause, in lines 24-26 of the Abstract, at column 1, lines 64-67, and cat column 2, lines 47-48 teaches the recited language. Applicant respectfully disagrees with this interpretation of Krause. At column 2, lines 47-48, Krause discloses that "a STREAM stack may be migrated, either in whole or in part, from one node to another." Applicant notes that the cited section says nothing about migrating all of the program units associated with a process to a single multiple processor unit. Krause merely discloses that a STREAM stack may move from node to node. As a result, Krause does not teach disclose migrating one or more the plurality of program units from one or more of the plurality of multiple processing units to one of the plurality of multiple processing units such that the plurality of program units associated with the process are executing on the same multiple processor unit. Applicant has reviewed Gillespie and Alverson and can find no teaching or suggestion of migrating one or more the plurality of program units from one or more of the plurality of multiple processing units to one of the plurality of multiple processing units such that the plurality of program units associated with the process are executing on the same multiple processor unit. Thus none of Krause, Gillespie or Alverson teach or suggest each and every element of claims 1, 9 or 17, resulting in differences between the cited references and claims 1, 9 and 17.

In fact, there is no motivation to combine Krause with Gillespie and Alverson because Krause teaches away from "migrating one or more the plurality of program units from one or more of the plurality of multiple processing units to one of the plurality of multiple processing units such that the plurality of program units associated with the process are executing on the same multiple processor unit." At column 9, lines 21-30, Krause states:

> A stream is distributed for any of the following (but not restricted to) reasons: to take advantage of cluster-wide facilities, for applications to have a single system view of a cluster 20 which should facilitate their execution and management within a cluster, and to provide high availability, load balancing, and hardware sharing. A side effect of distribution is higher overall cluster performance with reduced CPU overhead. To illustrate these concepts, the following examples are given using the example cluster described in the next section.

Krause goes on at column 9, line 31 to column 12, line 64 to provide numerous advantages of distributing STREAMS process modules across multiple nodes, including hardware sharing, load balancing, high availability etc. Thus rather than migrating program units associated with a process to the same multiple processor units, Krause teaches the opposite, that it is beneficial to distribute the program units across multiple nodes.

In view of the above, there are differences between claims 1, 9 and 17 and the combination of Krause, Gillespie and Alverson because the combination fails to teach or suggest each and every element of claims 1, 9 and 17. Further, there is no motivation to combine Krause with Gillespie and Alverson. Therefore claims 1, 9 and 17 are not obvious in view of the combination of Krause, Gillespie and Alverson. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 1, 9 and 17.

Claims 2 and 5-8 depend from claim 1; claims 10 and 13-16 depend from claim 9; and claims 18 and 21-24 depend from claim 17. These dependent claims inherit the elements of their respective base claims and are therefore believed to be allowable for at least the reasons discussed above regarding their respective base claims.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative at (612) 373-6954 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date January 9, 2009 By _____
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CERTIFICATE UNDER 37 CFR § 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 9th day of January, 2009.

Rodney L. Lacy
Name

Signature